

REMARKS

Claims 65-83 and 85-97 remain in this application. Claim 84 has been cancelled without prejudice. Claims 65, 83, 85-94, and 96-97 have been amended. No claims have been added. The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks.

Election/Restrictions

Submitted herein are amendments to claim 83. Due to these amendments, Applicants respectfully submit that claims 83-97 should be examined in the present application.

Specification

The Examiner has objected to the amendment filed 11/08/04 under 35 U.S.C. 132 because it allegedly introduces new matter into the disclosure.

As stated before, Applicants respectfully disagree with this rejection. Nevertheless, due to the Examiner's requirement, Applicants have deleted the terms "net amount of" from claim 65. Accordingly, the objection is believed to be moot.

35 U.S.C. §112 Rejection

The Examiner has rejected claims 65-66, 72-77 and 79-82 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement due to inclusion of the phrase "to transfer a net amount of heat".

Applicants have deleted the terms "net amount of" from claim 65. Accordingly, the rejection is believed to be moot.

35 U.S.C. §102(e) Rejection – Loffler

The Examiner has rejected claim 65 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2002/0071797 issued to Loffler, et al. (hereinafter referred to as “Loffler”).

Claim 65 is directed to an apparatus comprising “*a first compartment including an endothermic hydrogen generator; a second compartment including an exothermic hydrogen generator, the second compartment to transfer heat to the first compartment; and a fuel cell coupled to the generators to receive hydrogen and to generate electrical power*”.

As understood by Applicants, Loffler does not teach or reasonably suggest a compartment including an exothermic hydrogen generator. Loffler discloses in part using an exothermic **combustion process** to provide heat to an endothermic reforming process. The endothermic reforming process may produce hydrogen. However, the combustion process is not a hydrogen generation process. In fact, in paragraph [0049], it is disclosed that hydrogen gas may be combusted. Furthermore, there is no teaching or reasonable suggestion that an exothermic hydrogen generation process may be used to provide heat to the endothermic reforming process.

Accordingly, for at least these reasons, claim 65 and its dependent claims are believed to be allowable.

35 U.S.C. §102(e) Rejection – Bunk

The Examiner has rejected claim 65 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2003/0103880 issued to Bunk, et al. (hereinafter referred to as “Bunk”).

Applicants respectfully submit that Bunk was filed after the filing date of the present application. Bunk claims priority to provisional 60/311,459. If the Examiner is

to maintain this rejection, Applicants respectfully request that the Examiner provide a copy of the provisional 60/311,459 so that the Applicants may evaluate the rejection including support in the provisional 60/311,459 for the subject matter of Bunk which the Examiner relies upon in the rejection. Otherwise, the rejection should be removed.

Furthermore, it does not even appear, at first glance, that Bunk teaches or suggests the limitations of the independent claims.

35 U.S.C. §103(a) Rejection – Long and Basch

The Examiner has rejected claims 65-66, 72-77, 79 and 82 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,702,491 issued to Long et al. (hereinafter “Long”) in view of U.S. Patent No. 3,607,066 issued to Basch (hereinafter “Basch”). The Applicants respectfully submit that the present claims are allowable over any combination of Long and Basch.

Claim 65 is directed to an apparatus comprising, “*a first compartment including an endothermic hydrogen generator; a second compartment including an exothermic hydrogen generator, the second compartment to transfer heat to the first compartment; and a fuel cell coupled to the generators to receive hydrogen and to generate electrical power*”. Any combination of Long and Basch does not teach or suggest an exothermic hydrogen generator contained in a first compartment transferring heat to an endothermic hydrogen generator contained in a second compartment which is different than the first compartment.

Long discusses that a second chemical hydride may heat a primary chemical hydride. However, Long teaches that the primary and second chemical hydrides be included **in the same container**.

Basch discusses simultaneous production of oxygen and hydrogen where the heat liberated in producing the oxygen is utilized in hydrogen production. However, **Basch does not teach or suggest an exothermic hydrogen generator, let alone using an exothermic hydrogen generator in one compartment to transfer heat to an endothermic hydrogen generator in another compartment.** Applicant also submits that it doesn't matter if Basch discusses that other equipment or devices for the generation of hydrogen may be included, since Basch does not teach or suggest using an exothermic hydrogen generator.

The Examiner has stated that it would have been obvious to incorporate the specific compartments of Basch in the hydrogen generating apparatus of Long. Applicant respectfully disagrees.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Firstly, Long and Basch do not contain any suggestion that they be combined, or that they be combined in the manner suggested by the Examiner. Secondly, the combination proposed by the Examiner goes against the express teachings of Long. Long discusses that the second chemical hydride or chemical composition should be positioned in the container **between** the first chemical hydride and an outlet of the water conduit in

order to **delay hydration** of the first chemical hydride until it has reached a temperature sufficient to prevent the first chemical hydride from undergoing an unstable exothermic reaction (see e.g., column 3, lines 18-30). That is, Long expressly **teaches away** from the combination proposed by the Examiner.

Thirdly, even if combined, which does not even seem appropriate, the combination still does **not teach all claim limitations**. In particular, there is absolutely no teaching or suggestion, either in the references themselves, or in the knowledge available to one of ordinary level of skill in the art, to contain an exothermic hydrogen generator in a first compartment to transfer heat to an endothermic hydrogen generator included in a second compartment which is different than the first compartment.

The Examiner appears to be using 20-20 hindsight with the Applicant's own disclosure serving as a guide or roadmap, in order to arrive at the invention defined by claim 65. This is of course impermissible.

For at least these reasons, claim 65 and its dependent claims are believed to be allowable over Long and Basch. Claim 83 and its dependent claims are believed to be allowable for similar reasons.

35 U.S.C. §103(a) Rejection – Basch and Long

The Examiner has rejected claims 65-66, 72-77, 79 and 82 under 35 U.S.C. §103(a) as being unpatentable over Basch in view of Long.

The Applicant respectfully submits that the present claims are allowable over Basch in view of Long. The discussion above is pertinent to this point.

35 U.S.C. §103(a) Rejection – Long, Basch, Corey, and/or Basch, Long, Corey

The Examiner has rejected claims 80-81 under 35 U.S.C. §103(a) as being unpatentable over a) Long in view of Basch; and/or b) Basch in view of Long as applied to claim 65 above, and further in view of U.S. Patent Publication No. 2004/0209137 issued to Corey, et al. (hereinafter "Corey").

For the reasons discussed above, the independent claim of claims 80-81 are believed to be allowable. Applicants at this time therefore do not address the propriety of the rejections of these dependent claims. Similarly, the Applicants do not address the propriety of the combination of the Corey with either of the references, or other aspects of the rejections.



Conclusion

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Applicants respectfully request that the rejections be withdrawn and the claims be allowed at the earliest possible date.

Request For Telephone Interview

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

Request For An Extension Of Time

The Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

Charge Our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
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